

APPENDIX LL:

Natural Resource Department Information



Hatchery Facility Upgrade

Inside this issue:

<i>Environment</i>	2
<i>Water & Brownfields</i>	3
<i>Fisheries</i>	4
<i>Wildlife</i>	5
<i>Plants</i>	6
<i>Lake Superior</i>	9
<i>YCC</i>	9
<i>Mining</i>	10
<i>Fall/Winter Calendar</i>	12

The hatchery facility is currently in the process of an equipment upgrade. The purpose of the upgrade is to reduce water use through recycling, reduce groundwater pumping, improve water quality and systems monitoring, and improve our alarm and backup systems. The first part of the systems upgrade was actually completed last year when we installed a new backup generator transfer switch. The transfer switch is the equipment responsible for monitoring electric current from the electric grid into the hatchery and turning on the backup generator when there is a problem with the electric current, due to low voltage, power outage, or other electric supply problem.

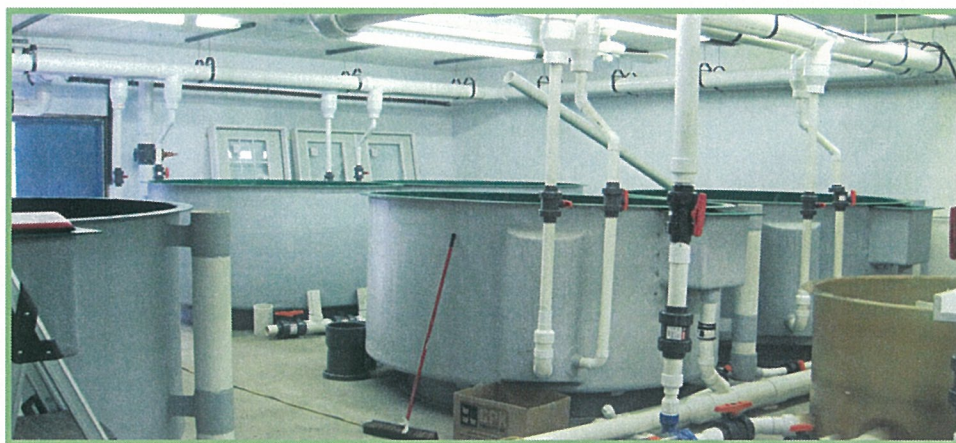
The current work includes installation of a common water head

tank, reconfiguration of the water distribution system, installation of groundwater pump motor controls, installation of new fish rearing tanks, installation of a number of monitoring systems, addition of oxygen injection equipment, and installation of a new alarm system.

One of the major goals is to reduce groundwater use to help protect the groundwater resource in the Pequaming area. Similar systems in other hatcheries have been able to reduce water use by 25-50% and we hope to achieve similar results. Another objective is to improve operations but maintain our current fish production capacity. Our production targets of a minimum of 50,000 yearling lake trout and 40,000 yearling brook trout annually remain the same.

For approximately 20 years, the lake trout and brook trout rearing operations have been using 100-700 gallons of fresh groundwater pumped from the aquifer beneath the Pequaming area. Reducing water use by 25% could reduce the amount of groundwater pumped by over 10 million gallons per year. Time will tell.

**25-50% reduction
in water demand!**



New recirculating tanks at the KBIC fish hatchery

Special points of interest:

- Household Hazardous and Electronic Waste Collections
- Walleye and Lake Trout Stocking
- Sand Point Restoration Project
- Mining Information

Household Hazardous and Electronic Waste Collections

KBIC hosted two free household hazardous and electronic waste collection events, one in June the other in October. The collection events were open to tribal members and all non-tribal residents of Baraga County. More than 350 used electronic devices such as TVs, computers, monitors, and microwaves were collected as well as over 5,000 pounds of household hazardous waste during the June collection.



Hazardous household waste collected

Wastes collected included used oil, old gasoline, pesticides, mercury, oil filters, car batteries, and other hazardous materials. Both collection events were considered a big successes by all involved considering that Baraga County only has about 8,860 residents. One of the most exciting items collected was a jar containing liquid mercury. **A total of 29,636 pounds of waste was collected during the two events, including 19 pounds of mercury!**

All waste collected will be recycled or disposed of depending upon material type. Proper handling and disposal of hazardous waste materials is a critical part of preventing potential contaminant release to the Lake Superior ecosystem which helps protect this precious resource. With the help of U.S. EPA Great Lakes Restoration Initiative funding we will be able to establish a regular collection program, leading to increased protections for our wonderful Lake Superior.



Electronic waste collected in June

KBIC is also hosting a three day tire collection event and a hazardous and electronic waste "milk run" program in November. The "milk run" is through Northwest Regional Planning Commission and is designed to accept hazardous and electronic wastes from municipalities, businesses and schools in Baraga County. Items accepted are monitors, CPU, printers, faxes, copy machines, peripherals, TVs, floor copiers, keyboards, fluorescent bulbs, oil-based paint, solvents or adhesives, antifreeze, aerosols, batteries, poison solids, pesticides (solid or liquid), ballasts, and other items considered hazardous, especially items containing mercury. Two collection events are planned each year starting in November 2011.

KBIC Hosts MTEG Meeting

KBIC hosted the Michigan Tribal Environmental Group (MTEG) summer meeting on August 17 and 18 at the Keweenaw Bay Ojibwa Community College. The purpose of MTEG is to serve as a forum for tribal environmental and (to a lesser extent) natural resource staff to share information and knowledge in the interest of protecting tribal resources. The meeting opened with a warm welcome from KBIC Presi-

dent, Chris Swartz. Employees from all 12 Michigan tribes were in attendance including Bay Mills, Grand Traverse, Pokagon Band of Potawatomi, Saginaw Chippewa, Litter River Band, representatives from the Inter-Tribal Council of Michigan, and the EPA Tribal Liaison for Michigan. Several KBIC Natural Resources Department employees presented information on mining, uranium testing, and the Sand Point restoration project. Other topics of discussion included wild rice, air quality monitoring

programs, and tribal environmental health issues. The group toured the Sand Point restoration area, KBIC walleye ponds and the KBIC fish hatchery. The group ended the day Wednesday with a canoe trip to visit several wild rice beds in Huron Bay. The next MTEG meeting will be hosted by the Grand Traverse Band of Lake Superior Chippewa in Traverse City, MI.



Canoe trip to visit wild rice beds in Huron Bay



MTEG members touring the KBIC walleye ponds

Water Program Staff Attend USGS Training in Colorado

KBNRD water resources specialist, Micah Petoskey, and water resources technician, Kit Laux, attended a U.S. Geological Survey (USGS) two week training this summer in Colorado. The purpose of the training was to learn USGS methodologies for collecting and processing samples of ground and surface water for water quality analyses and for completing commonly made field water quality measurements. The training also covered field handling techniques, equipment use, theory, and methodology for a variety of water sampling parameters. Micah and Kit hope to take what they learned at the training and improve the KBNRD water program methods of collection and safety in the field and in the office. They will be developing standardized forms for use of equipment, maintenance, and field protocols similar to those used by USGS.



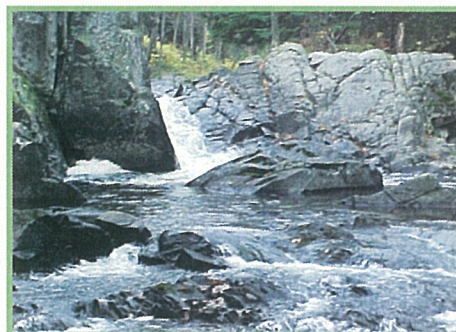
Pedestrian bridge over Clear Creek at Lions Park in Golden, Co.

Water Quality Monitoring



Collecting water quality data

The water program is finishing up their annual water quality assessments on waters throughout the reservation. Sampling includes chemical, physical (habitat), and biological (macroinvertebrates) parameters. This information is compiled and analyzed to determine the quality of water for fish and wildlife on the reservation. In general, the waters of the reservation are of high quality. Collecting this information allows us to prepare for future water issues involving quality and quantity of reservation waters. In the past several months the water crew has also had the opportunity to participate in sampling of off reservation waters within the ceded territory and assist local school kids with macroinvertebrate sampling on the Huron River.



Falls River

Brownfield Program Activities

Summer and fall activities for the Brownfield Assessment Program include groundwater and soil sampling for contamination at several locations on the reservation. Highlights for the program include disposal of several barrels of non-hazardous substances and several containers of oil and unidentified substances from two brownfield sites on the reservation. OSI Environmental Services was contracted to

haul away the waste and properly dispose of it. The Brownfields Program in the KBNRD is supported using funds from the U.S. Environmental Protection Agency (EPA). Although the Brownfield Assessment Coordinator, Jennifer Merk, will be leaving KBNRD in December, the brownfield program will continue under the Tribal Response Program.



Containers of waste at a brownfield site in need of disposal

A Good Year for Walleye Rearing and Stocking



Collecting walleye in the ponds for stocking

In 2011 the KBIC NRD walleye program had another successful year. The walleye rearing and stocking program began in 2008 and was developed to support walleye population restoration efforts in the western Lake Superior area and tribal walleye harvest activities. KBIC's current rearing capacity consists of 2 rearing ponds, each approximately 1/2 acre in size. Capacity expansion plans are being developed to add additional acreage to the current facility. 2011 walleye stocking to date include 275,000 walleye fry stocked into Portage Lake, 6,000 walleye fry stocked into Lower

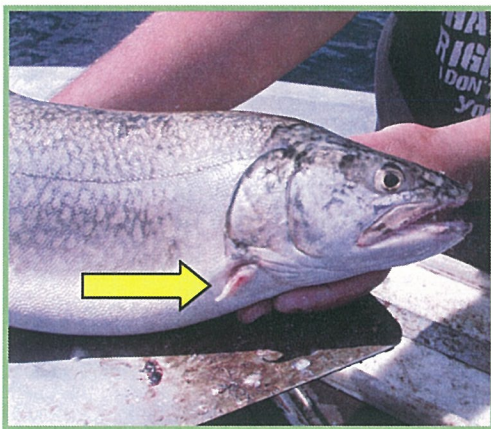
Keweenaw Bay, and 38,000 walleye fingerlings 2 to 4 inch in size divided between Huron Bay, Keweenaw Bay, and Portage Lake. In September, an additional 3,000 walleye were stocked into local waters. These walleye were part of an extended growth trial at the walleye ponds.



Walleye fingerling for stocking

Lake Trout Stocking

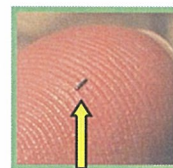
In addition to walleye, KBIC also recently stocked 5,100 lake trout into Keweenaw Bay. The lake trout were surplus USFWS Iron River National Fish Hatchery (IRNFH) stock, and are marked with a unique finclip and fitted with an internal Coded Wire Tag (CWT) for future stock evaluation studies. Fish stocked were sub-fingerlings, averaging 3.5 inches in length. Natural Resource Department staff request that people watch for lake trout from Lake Superior with finclips (missing adipose fins) as it's likely that these fish also have a CWT.



Finclipped lake trout

We encourage people to retain the entire head of captured lake trout if they would like to help with our data collection and research.

You can contact KBNRD at 906-524-5757 (ext 12) if you capture a finclipped or tagged fish or for other information.



Coded wire tag

Fish Assessments

Monitoring and assessment of brook trout, lake sturgeon and lake trout continued this year throughout the reservation and several off-reservation locations. Captured fish are measured, weighed, examined for fin clips, tags, disease, sea lamprey attacks and overall health and condition. For lake sturgeon, tissue samples are collected for genetic testing. Collecting this information allows the NRD to better understand the fisheries in the area and to plan for stocking events in the future.

This summer/fall assessment and collection activities include collection of brook trout eggs from Jumbo River watershed, surveying of fish communities in the Falls River watershed, lake sturgeon surveys at South Entry and Keweenaw Bay, and collection of lake trout eggs from Traverse Island Shoals.



Processing a captured lake sturgeon

KBIC Tribal Wildlife Management Plan



Bobcat caught on KBIC remote camera

KBIC is proposing to develop a Wildlife Management Plan for the L'Anse Reservation using data collected during a soon to be completed Phase I Wildlife and Habitat Inventory project. Currently, KBIC does not have comprehensive data sets for wildlife planning, decision making, or long term monitoring. Our goal is to develop a Wildlife Management Plan that reflects the values and traditions of KBIC using sound scientific baseline data collected and community involvement. Work on the plan is set to begin 2012.



Coyote caught on KBIC remote camera

ANA Wildlife & Habitat



Volunteer Valorie Gagnon checking a remote camera

A two year project funded through Administration of Native Americans (ANA) to conduct baseline surveys for carnivores/furbearers in upland and riparian habitat is coming to an end. A total of 51 study areas have been surveyed using remote camera surveillance and plant/habitat data collected. Information gathered will be analyzed, summarized and presented during the second phase ANA funded project between 2011-2013 and used in the creation of a KBIC Tribal Wildlife Management Plan (see section above).



Wildlife biologist Pam Nankervis collecting field data for the wildlife/habitat study

Chronic Wasting Disease Surveillance

CWD surveillance will take place again this 2011 hunting season. We hope to collect a minimum of 100 heads from hunter harvested and road-killed deer. A prize drawing will be implemented again this year since it was so successful in helping us to attain our goal for 100 heads in 2010. Watch for posters and details on how to donate your deer head and a possible chance to win cool stuff! For more information contact Pam Nankervis, 906-524-5757 ext 19.



KBIC staff removing lymph nodes from deer heads for CWD testing

Waterfowl Index Surveys

Waterfowl surveys are being conducted on four local bodies of water again this fall for the 16th year of data collection. Head of the Bay between Baraga and L'Anse, Sand Point, Mud Lakes, and Huron Bay are all included in the survey. All waterfowl including ducks, geese, swans and mergansers are counted during the survey. A total of twenty-seven different species of waterfowl have been detected over the years with an average of 15 species detected per year. Some common species include mallard, black duck, blue winged teal, bufflehead, common merganser, Canada goose, American coot, lesser scaup, and ring-neck duck.

Sand Point Restoration Project Underway

The Sand Point restoration project, which began in 2006 with placing a soil cover over stamp sands, is moving ahead with funds received from the EPA administered Great Lakes Restoration Initiative program. The new work includes addition of more soil, gardens, soil mounds, and native plantings. Soil mounds and native seed plots have been installed. One acre has been planted with approximately 48 species of native herbaceous plants and seven different species of trees and shrubs. New plantings have been irrigated. A fall planting with cover crop was completed at the end of September. Our field season is quickly winding down, so further work will take place in spring. Additional work will include placement of boulders, additional native plantings and associated irrigation. Improvements will provide habitat for a variety of wildlife and add some variety to the scenery.



Sand Point before cap and re-vegetation in 2006



One-acre native plant garden and pond at Sand Point restoration site, 2011



Sand point after 2006 cap and re-vegetation

KBIC Green House

In 2010, a tribal green house was built as part of a cooperative pollinator project with The US Forest Service and The Cedar Tree Institute. There are close to 30 species being grown with additional native seeds collected this year. Species include but are not limited to tobacco, sweetgrass, white sage, big bluestem, black-eyed susan, wild columbine, ginger, and yellow aven. Plant grown are being used for the Sand Point Restoration Project. The green house has been a great addition to our department tour and has drawn interest from local tribal members, areas schools, US Forest Service employees, university students and instructors, and health center employees.



KBIC green house



Plant technician Karen Andersen transplanting seedlings

NRD Staff Attend Intertribal Nursery Council Meeting

During the week of September 12th, three NRD staff traveled to Temecula, CA to attend the 11th Intertribal Nursery Council annual meeting. The Intertribal Nursery Council is managed by the USDA Forest Service. The organization is tribally guided and seeks to advance the interests of native peoples involved in plant production in nurseries. Topics covered included cold storage of seedlings, improving propagation success, and growing media and con-

tainers. Plant Technician, Karen Andersen remarked that the best part of the trip was the tours to a local tribal nursery and local attractions and monuments. Although the climate and plants are much different in California compared to Michigan, many of the techniques and methods for plant production discussed are transferable across varying landscapes and climates. NRD staff plan to attend this meeting annually.



California scenery

Invasive Species Control

Natural Resource Department staff continue with monitoring, locating, and working on controlling non-native invasive plant species on the reservation. This summer and into the fall, attention was focused on four invasive species: purple loosestrife, Japanese barberry, spotted knapweed and Eurasian watermilfoil. Actions are being taken to control these species on the reservation including cutting, pulling and in some case use of herbicides (Japanese barberry). KBIC collaborates with ~ 9 other groups in an effort to protect our natural resources from invasive species. U.S. Forest Service, Great Lakes Indian Fish and Wildlife Commission, Midwest Invasive Plant Network (MIPN), and Baraga Conservation District are a few of our partner organizations. Other species of concern include exotic honeysuckle, marsh thistle, giant knotweed and common and glossy buckthorn.

To avoid introducing or encouraging invasive species in our area, we urge people to follow the following steps:

- Use native plant species when landscaping your property
- Encourage use of native plant seed for roadsides and ditches
- Remove all invasive/non-native species from your property
- Plant native species for livestock feed
- Properly clean boats and lawn equipment before and after use

For more information, contact Karen Andersen (ext 23) or Evelyn Ravindran (ext 11).



Chemical control of Japanese barberry



Manual control of spotted knapweed



Manual control of purple loosestrife



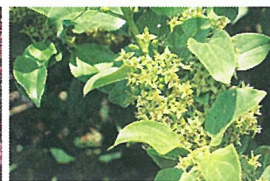
Spotted knapweed



Purple loosestrife



Japanese barberry



Buckthorn spp.



Eurasian watermilfoil

Seed Collection for Propagation and Preservation

Early fall is prime time to collect seed for propagation and preservation of native species in our area. Plant technician Karen Andersen has been roaming the reservation collecting seed from native plants to propagate in the green house and eventually transplant at Sand Point. Seed has been collected from many of the species already planted at Sand Point including black-eyed susan, wild columbine, tobacco, and white sage. New plants include blue vervain, boneset, and sweet fern.



Black-eyed susan's at Sand Point

Collection of ash seed is also ongoing in an effort to preserve and protect the ash resource in our area from the threat of the emerald ash borer (shown in lower picture on right). The Natural Resource Department is a partner in a cooperative effort with BIA Forestry and USDA Natural Resources Conservation Service for collecting local native ash seed. Collections have been completed from locations on approximately 96 acres of tribal land.

An agreement with the USDA Agricultural Research Service in Colorado provides for long term cold-storage of ash seed collected from KBIC lands. The agreement prohibits any genetic alteration or other use of the ash seed without KBIC approval. The Department of Agriculture continues to monitor for the presence of emerald ash borer in our area. One of the ways we can help reduce the spread of emerald ash borer is to stop the transportation of firewood onto or out of tribal lands.



Climbing to the top of the ash tree to collect seed



*Jerry Jondreau with ash tree branch with seed.
Top right: Emerald Ash Borer*

Wild Rice

For the last 10 years the Natural Resource Department has worked to restore wild rice throughout the reservation and ceded territories at locations known or suspected to have historically had wild rice beds. Over that time we have planted wild rice seed at 13 sites within Baraga County. Wetlands that have had wild rice present in the last 5 years are surveyed annually. Seeding each year is dependent on seed available, and varies from year to year. This year, seed was planted in Huron Bay and previous seeding efforts in this area were assessed for growth and abundance. Human and natural disturbance and con-

sumption of wild rice by wildlife, mainly waterfowl, has impacted establishment and abundance of wild rice in seeded areas. Our long term goal is to develop harvestable self-sustaining wild rice populations on the reservation and within the ceded territory for future generations.



Spreading wild rice seed



Wild rice harvest

"Plants can exist alone; but neither animals nor men can exist without plants. Without plants, or when their balance is disturbed, the quality of life and existence declines."

Basil Johnston, Ojibwa Heritage

Lake Superior Day



The Natural Resource Department organized a beach cleanup on July 15th in celebration of Lake Superior Day. About 30 people including Natural Resources Department staff, tribal youth crews, and area community members cleaned approximately 5 miles of Lake Superior beaches from Assinins/Sand Point all the way around the bottom of the Bay and up the eastern shoreline to Pequaming. The day started with an opening ceremony performed by KBIC member, Debra Williamson.

The cleanup was followed by a pot luck luncheon at the Sand Point Light House day use area. We estimate we collected and disposed of about 40 bags of trash off the beaches. Local businesses and restaurants shared in the celebration by distributing post cards and bookmarks and using special Lake Superior Day place mats throughout the



*Summer youth crew members picking up trash near Assinins.
Photo by Gene Bertram*

week and weekend that contained information about threats to and ways to protect Lake Superior.

Lake Superior Day, which was created in the early 1990's by the Binational Forum, is officially the third Sunday in July. The Binational Forum, a group of volunteers from the United States and Canada working together to protect Lake Superior, states that Lake Superior Day is a "special day held around the lake to highlight the importance of the world's largest freshwater lake to the basin's environment and economy."

KBIC will continue to hold annual events in honor of Lake Superior Day, but we encourage the community to treat every day as Lake Superior Day and take actions to restore and protect our beautiful Lake.

Summer Youth Conservation Corps

For the third year in a row KBIC and the Superior Watershed Partnership (SWP) teamed up to offer a Youth Conservation Corps (YCC) for tribal youth. This year's crew was supervised by Joy BLANK and Gene Bertram from SWP. YCC activities included (but were not limited to) beach clean-ups, macroinvertebrate



Checking the sea lamprey trap



Planting at Sand Point

sampling, invasive species control, native plantings at Sand Point, lamprey monitoring, salamander and turtle surveys, and tagging brook trout. We hope to be able to offer this program every year to provide opportunities for tribal youth to get outdoors and learn about natural resources and natural resource stewardship.



Macroinvertebrate collection



2011 YCC participants and supervisors



Helping with the green house

Photos for this section provided by Joy Bender Hadley and Gene Bertram

Tracking Mineral Exploration

The Natural Resource Department is tracking mineral exploration occurring throughout the Keweenaw Bay Indian Community's 1842 ceded territory in Michigan's Upper Peninsula and throughout the Lake Superior watershed. Advanced on-reservation drilling has occurred about six miles from the village of L'Anse by Kennecott Eagle Minerals Company, a subsidiary of multi-national mining company Rio Tinto based in England and Australia. The sulfide-ore deposit at this site, called BIC (Bovine Igneous Complex), consists of nickel, copper, and platinum group elements. Kennecott is exploring numerous additional targets in the western Upper Peninsula. Other companies active in exploration include Bitterroot Resources, Prime Meridian,

Orvana Minerals Corp, and Aquila Resources.

How do companies gain access to mineral rights? Typically, landowners in the U.P. do not control the mineral rights underneath their property. Within the L'Anse Reservation, some mineral rights have been severed from surface rights. Researching the ownership of mineral rights is often long and complicated. In Michigan, information about exploration activities may not be released to the public, which makes it difficult to know where companies are exploring. Companies may receive mineral rights leases from the state or federal government, or mineral rights could be owned entirely by a corporation. Kennecott currently holds 462,000 acres of mineral rights in Baraga and Marquette Counties.



Exploratory drilling cores left at the Kennecott BIC Exploration Site

A Threat to Lake Superior?

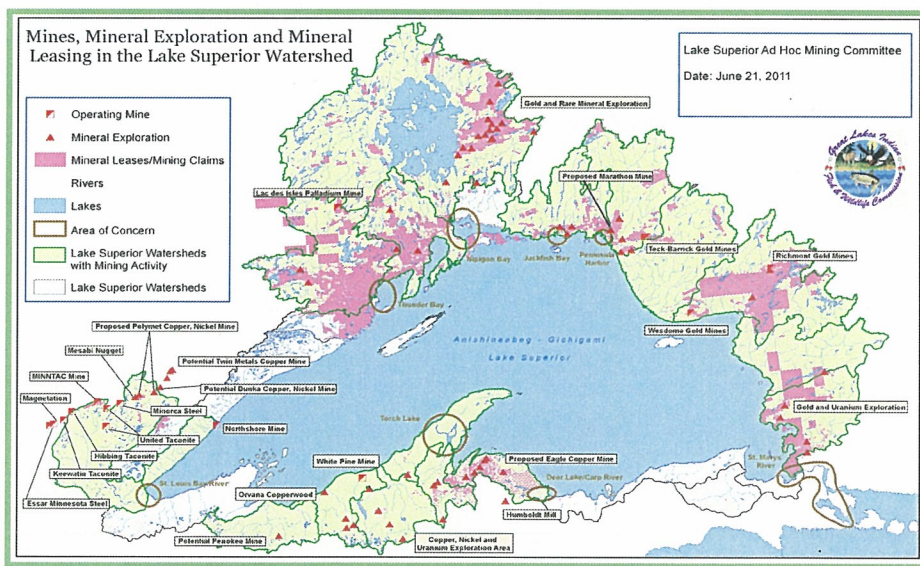
There are past, current and proposed mining operations throughout the Lake Superior watershed that may have a significant negative cumulative impact on the Lake Superior ecosystem. Present-day Great Lakes Areas of Concern, including Deer Lake and Torch Lake in Michigan's Upper Peninsula, are sources of contamination from previous mining. Other areas of stamp sands also impact the local environment. Former tailings basins, old

stream diversions, waste rock piles, former processing or smelting areas all have impacted the local environment in some manner.

Environmental impacts from mining may include destruction of fish and wildlife habitat, destruction of wetlands, degraded air quality, mercury emissions, loading of heavy metals such as copper, arsenic, nickel, and others into area waters, and general degradation of water quality. Also of con-

cern are potential impacts from uranium and radioactive waste materials. Current mining and metals production accounted for 65% of mercury releases into Lake Superior in 2010. Increased mercury emissions from proposed mining development would likely hinder the Lake Superior Binational Program goal of zero mercury releases in the basin by 2020.

The Kennecott Eagle Project, located within the Yellow Dog Watershed of Lake Superior, was the first sulfide mine permitted within the State of Michigan using a new mining law. Despite legal challenges and concerns regarding the impact to a sacred place (Eagle Rock), and the potential for mine collapse and water contamination, above ground construction began in the summer of 2010 and mine portal excavation started in September 2011.



**65% of mercury
released in the basin in
2010 was from mining**

Acid mine drainage (AMD) is one of the primary ways mining of metallic sulfide ores causes water pollution. Metallic sulfide mining involves extracting metals (such as nickel, copper and gold) from a sulfide ore body. These deposits generally also contain other metals, such as arsenic and mercury. When sulfide-bearing ores are unearthed, transported, crushed and processed, they are exposed to oxygen and water which triggers a chemical reaction that produces sulfuric acid. When acidic waters carrying heavy metals and other contaminants drain into nearby rivers, streams, lakes and groundwater, through either direct discharge or storm-water runoff, this causes many problems.

AMD can dissolve heavy metals such as cadmium, zinc, selenium, arsenic, mercury and lead, which can be toxic to aquatic life, plants, wildlife and people. AMD is extremely difficult to stop once it begins,

Acid Mine Drainage



Acid Mine Drainage in Sudbury, Ontario

and can require expensive perpetual care and water treatment, long after a mining company is done and has closed the mine. According to the U.S. Environmental Protection Agency, more than 40 percent of western U.S. watersheds are contaminated from mining, largely due to acid mine drainage. Even modern mines pose a threat and **there has never been a metallic sulfide mine that has not polluted water resources when water was present.**

Locations such as the Eagle Mine and the Humboldt Mill are likely areas where acid mine drainage will occur. At the former Humboldt mine it appears that acid mine drainage from former ore processing operations at the facility is already occurring. Kennecott plans to process Eagle Mine ore in the Humboldt Mill and dispose of about 2.5 million tons of sulfide-bearing waste tailings into the pit lake. This will be a potential source of future acid drainage for many years to come.

Mining Workshops in the Basin

Natural Resource Department staff have recently attended a number of informative mining workshops and conferences. These gatherings have provided an opportunity to better understand technical, legal, socio-economic and cultural dimensions associated with proposed mining developments. Recent events included; (1) a Tribal Mining Workshop hosted by the U.S. Environmental Protection Agency Region 5 Office in Chicago, IL; (2) A conference titled "Understanding the Impacts of Mining in the Western Lake Superior Region" hosted by the U.S. Geological Survey and the Bad River Band of Lake Superior Ojibwa in Odanah, WI; (3) A mining workshop titled "Let's Talk About Our Land" Tribal hosted by the Great Lakes Indian Fish

& Wildlife Commission (GLIFWC) and the Mott Foundation in Odanah, WI; and, (4) the Western Mining Action Network Bi-Annual Conference in Prince Albert, Saskatchewan whose theme was "Working Together As One; Sustaining Water, Culture & Healthy Communities."

These workshops and conferences have helped to increase the capability of Natural Resource Department staff to understand, address and review mining proposals, and have also provided opportunities to network and share lessons learned with other tribal natural resource staff, government officials and community members.

"There is knowledge about what is threatening us as Anishinaabe people. We are connected to this land 1,000 years forward and back. We need to rise up and face the challenge ahead for future generations."

~ Bad River Elder Joe Rose at the GLIFWC Tribal Mining

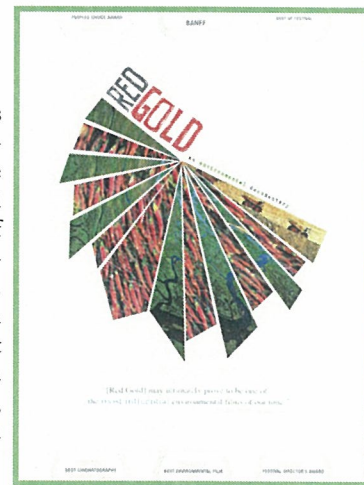
Mining Film Series

In August, the KBIC Natural Resources Department launched a monthly movie series "Mining Impacts on Native Lands." The goal of the series is to increase community awareness of mining and its impacts as mineral interest expands throughout the region. Featured films focus on the environmental and social impacts of mining, particularly on Native communities.

Mining updates and Q&A follow each film. Films have included "Keepers of the Water" highlighting the Crandon Mine controversy in Wisconsin and "Mining Madness, Water Wars: The Great Lakes in the Balance" showing the potential impacts of the Eagle Mine in Michigan.

The November film will be "Red Gold: The Pebble

Mine Debate" which gives rise to questions of sustainability and community subsistence in the face of a large proposed gold mine at the headwaters of Bristol Bay—the world's largest salmon spawning grounds. Red Gold will be screened on Thursday, November 3rd at the Ojibwa Casino Chippewa Room at 6pm and on Friday, November 18th at the Ojibwa Senior Citizens Center at 1pm.



KBIC Natural Resources Department
14359 Pequaming Road
L'Anse, MI 49946

Phone: 906-524-5757
Fax: 906-524-5748



We're on the web!

www.kbic-nsn.gov

Announcements

Equipment Loan Program

The Natural Resource Committee's Equipment loan program will now be managed by the Public Works Department. To reserve a log splitter, rototiller, brush cutter, or wood chipper, please contact: **Mark Misegan (906) 201-1702**

CWD Deer Head Collection


We are collecting deer heads for chronic wasting disease testing again this year. All donors will be entered in a raffle to win one of six awesome prizes (including a deer blind)! Collection boxes can be found at the following locations: KBIC Tribal Police Station, MDNR Station, KBNRD, Indian Country Sports, and Karvakko's Market. For more information please contact **Wildlife Biologist Pam Nankervis at (906) 524-5757 ext 19.**

Fall / Winter Calendar



November 2011

Native American Heritage Month

3rd (Thursday): Mining film series "Red Gold: The Pebble Mine Debate", Ojibwa Casino Chippewa Room 
6pm

6th (Sunday): End Daylight Savings Time  (turn clocks back 1 hour)

9th (Wednesday): Orvana Copperwood Mining Project Public Hearing, **7-10pm** at Gogebic Community College Lindquist Student Center - Courtside Dining Area

16th-18th (Wednesday-Friday): NRD Tire Collection,  Old Tribal Construction on Main St., Baraga. Watch for collection announcement or call NRD for details. **Wednesday 2-6pm, Thursday 12-4pm, Friday 7-11am**

18th (Friday): Mining film series "Red Gold: The Pebble Mine Debate", Ojibwa Senior Citizens Center, **1pm** 

24th-25th (Thursday-Friday): Thanksgiving, KBIC Offices closed 




December 2011

1st (Thursday): Mining film series "Under Rich Earth", Ojibwa Casino Chippewa Room, **6pm**

2nd (Friday): Mining film series "Under Rich Earth", Ojibwa Senior Citizens Center, **1pm** 

7th (Wednesday): MDEQ will accept written comments on the Orvana Copperwood mining permit application until **5pm**

22nd (Thursday): First Day of Winter (winter solstice) 

26th-27th, 30th (Monday, Tuesday, Friday): KBIC Government Offices Closed



January 2012

2nd (Monday): KBIC Government Offices Closed

16th (Monday): Martin Luther King Day Observed, KBIC Government Offices Closed

NATIVE PLANTS

KBIC has a memorandum of agreement (MOA) with the United States Department of Agriculture- Natural Resources Conservation Service (USDA-NRCS) for the re-establishment of culturally significant plants on Reservation.



In 2010, a tribal greenhouse was built as part of The Zaagkii Project, a cooperative pollinator project with The US Forest Service and The Cedar Tree Institute. There are close to 30 species being grown with additional native seeds to be collected.

Other Plant Projects

- ❖ Sand Point restoration
- ❖ Wild rice planting
- ❖ Ash seed collection
- ❖ Invasive species control



MINING

Since 2004, mineral exploration activities have increased within KBIC ceded territories and within the L'Anse Indian Reservation. There are at least six companies actively exploring metallic sulfide and uranium mineral deposits within and around the boundaries of the L'Anse and Ontonagon Reservations. Mining of metallic sulfides and uranium, and associated activities, has the potential to significantly impact treaty rights, reserved treaty resources, area ecosystems, and the health and welfare of the community and future generations. A KBNRD Mining Technical Assistant tracks mineral exploration and potential mining activity within ceded territories and Reservation boundaries. Technical and scientific information is collected to assist the KBIC Government in decision-making, participate in permitting processes, and inform the community.

EVENTS

- ❖ Environmental Fair
- ❖ Kid's Fishing Derby
- ❖ Lake Superior Day
- ❖ Tree Give-away
- ❖ Hazardous and electronic waste collections



COLLABORATED EVENTS

- ❖ Michigan Technological University (Touch the Future)
- ❖ Keweenaw Bay Ojibwa Community College
- ❖ Wild Rice Mini-camps
- ❖ Earth Keepers Covenant (clean sweep, cedar tree institute)
- ❖ KBIC Health Department (i.e. Men's Health, Healthy Heart)

SERVICES

- ❖ Invasive species monitoring and control
- ❖ Hatchery Tours
- ❖ Volunteerism
- ❖ Outreach and Education
- ❖ Summer Youth Crew
- ❖ Equipment loan program (rototiller, logsplitter, weed trimmer, wood chipper, brush cutter)



PARTNERSHIPS

- ❖ U.S. Fish & Wildlife Service
- ❖ U.S. Forest Service
- ❖ U.S. Geological Survey
- ❖ Superior Watershed Partnership
- ❖ Great Lakes Indian Fish & Wildlife Commission
- ❖ And many others

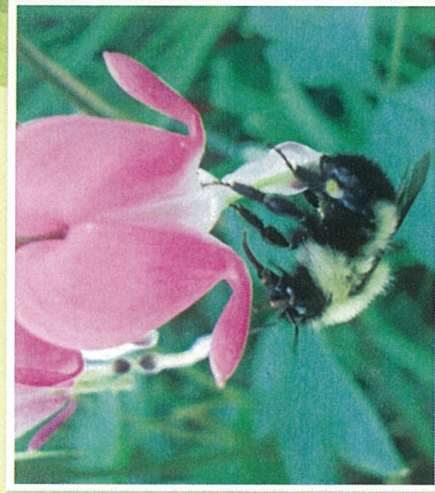


Phone: (906) 524-5757
Fax: (906) 524-5748
14359 Pequaming Road
L'Anse, MI 49946
WWW.KBIC-NSN.GOV

KEWEENAW BAY INDIAN COMMUNITY



NATURAL RESOURCES DEPARTMENT



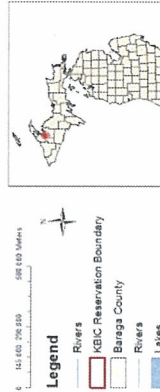
WHO ARE WE AND WHAT DO WE DO?

The KBIC Natural Resources Department (KBNRD) administers natural resource programs for the Keweenaw Bay Indian Community on the L'Anse, Marquette, and Ontonagon reservations as well as the western Upper Peninsula of Michigan (1842 ceded territory).

Programs & Activities

- ❖ Lake Superior fishery assessments
- ❖ Baraga County stream assessments
- ❖ Surface water and ground water monitoring
- ❖ Air and radon studies
- ❖ Brownfield programs
- ❖ Wildlife and wetland management
- ❖ Fish stocking from our hatchery

Keweenaw Bay Indian Community
Reservation Boundary



The Department was organized in 1999 and brought environmental and fish and wildlife programs under one department. Our staff work closely with the KBIC Natural Resources Committee and Cultural Committee. Our department is guided by a 10 year Integrated Resource Management Plan adopted by the Tribal Council and Bureau of Indian Affairs in 2003.

Funding Sources

- ❖ Keweenaw Bay Indian Community
- ❖ Bureau of Indian Affairs
- ❖ U.S. Environmental Protection Agency
- ❖ U.S. Fish & Wildlife Service
- ❖ U.S. Department of Agriculture

FISHERIES

Stocking Since 1993

- ❖ 1.5 million yearling lake trout
- ❖ 980,000 brook trout (including coasters)
- ❖ 320,000 walleye



Current Stocking Targets

- ❖ 50,000 lake trout fingerlings
- ❖ 40,000 stream brook trout
- ❖ 30,000 coaster brook trout
- ❖ 25,000 walleye

Fish Rearing Facilities

- ❖ Indoor raceways
- ❖ Recirculating water system/tanks
- ❖ Walleye ponds



Assessment & Monitoring

- ❖ Lake sturgeon
- ❖ Lake trout
- ❖ Brook trout
- ❖ Aquatic disease (i.e. VHS)
- ❖ Tribal commercial fish harvest
- ❖ Fish habitat (restoration/degradation)

WATER

Projects & Activities

- ❖ Ongoing water quality sampling throughout the reservation
- ❖ Well abandonment
- ❖ Residential water testing for contaminants (uranium)
- ❖ Storm water inspection



ENVIRONMENT

Projects & Activities

- ❖ Human health risk assessment
- ❖ Sustainable and renewable energy
- ❖ Emergency management
- ❖ Environmental management
- ❖ Brownfield site restoration/cleanup
- ❖ Waste stream characterization
- ❖ Hazardous and electronic waste collections
- ❖ Spring cleanups
- ❖ Environmental Fair



WILDLIFE

Program Outline

- ❖ Habitat and species inventories (wetland and upland)
- ❖ Habitat and species monitoring
- ❖ Wildlife surveys
- ❖ Endangered species monitoring
- ❖ Disease monitoring



Projects & Activities

- ❖ Wetland habitat inventory
- ❖ Upland habitat inventory
- ❖ Frog and toad surveys
- ❖ Sandhill crane surveys
- ❖ Waterfowl surveys
- ❖ Endangered species monitoring
- ❖ Song bird surveys
- ❖ Carnivore monitoring
- ❖ Disease monitoring/testing (i.e. chronic wasting disease)